

**Specimen examined:** Takhar, 314

3. *Avena sativa* Linn. sp. Pl. ed. 1:79, 1753; Cook in FPB 3:574; 1958; Bor in GBCIP; 434; 1960.

An annual. Culms simple. Spikelets 22-30 mm long or longer usually with a 1-awned floret at the base and one or two awnless floret above or with all the florets awnless. Grain tightly enclosed by the lemma and palea free silky all over.

**Fl. & Fr.:** December- February

**Ecology:** Commonly found in cultivated field of wheat.

**Locality:** Throughout the study area.

**Specimen examined:** Takhar, 312

4. *Bothriochloa intermedia* (R. Br.) A Camus in Ann.

*Soc. Lim.* Lyon, 1930, n.s. 76, 164, 1931; Bor in GBCIP 108, 1960. Perennials, culms tufted. Inflorescence 10-20 cm long. Glumes equal, the lower hairs pitted or not.

**Fl. & Fr.:** August-October

**Ecology:** Found growing occasionally in the grasslands on hillocks

**Locality:** Harshnath, Sikar

**Specimen examined:** Takhar, 223.

#### ACKNOWLEDGEMENTS

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### 30. *PONERORCHIS NANA* (KING & PANTL.) SOO (ORCHIDACEAE): A NEW RECORD FOR UTTARAKHAND<sup>1</sup>

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Deva and Naithani (1986) provided the taxonomic account of all known species of orchids from north-west Himalaya and described nearly 239 species, based on the study of herbarium specimens and published records. They reported *Ponerorchis nana* (King & Pantl.) Soo from Himachal Pradesh based on the collections made by B.S. Aswal from Rohtang in Lahul, growing between 3,000-4,000 m altitude. This species was earlier described in India from Sikkim Himalaya by King and Pantling (1898) as *Orchis chmsua* var. *nana* King & Pantl. There has been no collection of this species from any part of Uttarakhand till date. During a recent orchid exploration in Uttarakhand, *P. nana* was collected from an alpine zone of Uttarkashi district, Garhwal Himalaya for the first time. The collection of this species from Garhwal forms an interesting addition to the orchid flora of Uttarakhand.

In this note, a brief description along with a note on the flowering period, ecology and distribution of the species is given. Field number along with the collector's name is given in parenthesis. The voucher specimens are deposited in the herbarium, Wildlife Institute of India (WII), Dehradun.

*Ponerorchis nana* (King & Pantl.) Soo, Acta Bot. Acad. Sci. Hung. 12: 353 (1906); Deva & Naithani, Orchid Fl. North West Him. 199. t. 106 (1986). *Orchis chusua* var. *nana* King & Pantl., Ann. Roy. Bot. Gard. 8: 303. t. 402A (1898). *O. nana*

(King & Pantl.) Schltr. in Feddes Repert. 9: 434 (1911). *Chmsua roborowskyi* var. *nana* (King & Pantl.) P.F. Hunt, Kew Bull. 26: 1876 (1971). *C. nana* (King & Pantl.) Pradhan, Indian Orchid 2: 678 (1978).

Terrestrial, up to 10 cm long with oblong, bilobed tuber; stem with one or two blunt tubular sheaths at the base; leaf one, linear-lanceolate, acute or acuminate, grooved; inflorescence single-flowered; flowers white or purple; bracts lanceolate, acuminate, equalling the ovary; sepals spreading; petals ovoid; lip shallowly 3-lobed with broad truncate apex and crenate margin; spur cylindrical as long as the ovary, somewhat compressed.

**Fl.:** July-August.

**Ecology:** Rare ground orchid that prefers to grow in grassy slopes and meadows at c. 3,600 m.

**Specimens examined:** INDIA: Garhwal: Uttarkashi in Chuli Bugyal (G.S. Rawat 14781 WII).

**Distribution:** INDIA (Uttarakhand-Garhwal; Himachal Pradesh, Sikkim); Nepal.

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We thank the Director of Wildlife Institute of India (WII), Dehradun for facilities and encouragement.

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- KING, G. & R. PANTLING (1898): The Orchids of the Sikkim-Himalaya, Ann. Roy. Bot. Gard. (Calcutta) 8(1-4): 1-342, t.1-448.

### 31. A NOTE ON THE OCCURRENCE OF *LISTERA TENUIS* LINDL. (ORCHIDACEAE) IN KUMAON HIMALAYA<sup>1</sup>

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Deva and Naithani (1986), while describing the orchid flora of the north-west Himalaya, reported *Listera tenuis* Lindl. from Uttarakhand. While this species has been collected from subalpine and alpine areas of Chamoli district in Garhwal Himalaya, their report of this species from Kumaon Himalaya is based on a specimen reported to have been collected from Thal in district Pithoragarh, at an altitude of about 1,000 m. Other than this there are no other collections of this species from Kumaon Himalaya in the Indian Herbaria. As all the species of this genus grow at higher elevations, i.e., between 2,100 and 4,000 m, in north-west Himalaya, Deva and Naithani (1986) doubted the occurrence of this species at lower altitudes, and suggested further collections of this species to confirm its occurrence in Kumaon Himalaya. The same comment was repeated by Pangtey *et al.* (1991) due to non-availability of any collection of this species from Kumaon Himalaya.

During the course of an orchid exploration in Uttarakhand, a few specimens of this orchid were collected

from upper Gori valley in Kumaon Himalaya. In this note we confirm the occurrence of this species at higher altitudes of Kumaon Himalaya along with a brief note on its habitat. It can be stated that the earlier collection of this species from Thal may be erroneous. Voucher specimens are deposited in the herbarium, Wildlife Institute of India (WII), Dehradun.

**Ecology:** A rare ground orchid usually in the subalpine and alpine areas among shrubs. Only 4-5 individuals were seen under *Rhododendron campanulatum* near Tola village (3,500 m) in the upper Gori valley.

**Specimen examined:** Kumaon: Pithoragarh district in upper Gori valley J.S. Jalal 13945, WII.

**Distribution:** INDIA (Garhwal, Kumaon, Sikkim, Arunachal Pradesh), Nepal, Tibet.

#### ACKNOWLEDGEMENT

We thank the Director of Wildlife Institute of India (WII), Dehradun for facilities provided.

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- PANGTEY, Y.P.S., S.S. SAMANT & G.S. RAWAT (1991): Orchids of Kumaon Himalaya. Dehradun. 193 pp.

### 32. *SYNOTIS ALATUS* (WALL. EX DC.) JEFFERY (ASTERACEAE) – A NEW RECORD FOR ARUNACHAL PRADESH<sup>1</sup>

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The genus *Synotis* has about five species, which are found mostly in the eastern and western Himalaya (Hooker 1981). This information is based on a survey and collection of plant material by the author and through consultation

with the herbarium, Botanical Survey of India northern circle, Dehradun. During 2001, while conducting a survey and collection of medicinal plants growing in the Bomdila and Twang districts of Arunachal Pradesh, I came across a plant